

## **Title of the Invention**

**PROTECTIVE HOOD, SUCH AS FIREFIGHTER'S HOOD, WHICH  
HAS SECTIONS MADE FROM COMPARATIVELY HEAVIER AND  
COMPARATIVELY LIGHTER MATERIALS**

## **5 Cross-Reference to Related Application**

This application is a continuation-in-part of United States Patent Application Serial No. 10/136,564, which was filed on May 1, 2002, and the disclosure of which is incorporated herein by reference.

## **Technical Field of the Invention**

10 This invention pertains to a protective hood, such as a firefighter's hood, of as type worn, ordinarily, with a protective helmet, which may have a depending shroud to protect side and rear portions of a wearer's head, and with a protective coat.

## **Background of the Invention**

15 Protective hoods of the type noted above are exemplified in United States Patents No. 4,972,520, No. 5,090,054, and No. 5,873,132, the disclosures of which are incorporated herein by reference, and are available commercially from Morning Pride Manufacturing, L.L.C. of Dayton, Ohio.

20 As exemplified in those patents, protective hoods have respective head-covering and shoulder-covering portions made from similar, comparatively heavier, thermally insulative material, except that upper head-covering portions are made from comparatively lighter material, such as mesh or netting, which allows thermal energy to pass readily.

25 Protective hoods of related interest are exemplified in United States Patent No. 4,573,217 and in United States Patent No. 5,628,065.

Protective hoods of the type noted above are worn not only by firefighters but also by rescue workers, race car drivers, and others.

### **Summary of the Invention**

5 This invention provides a protective hood of the type noted above, with comparatively lighter material(s) being used not only at an upper head-covering section, as mentioned above, but also elsewhere where comparatively heavier, thermally insulative material(s) may not be always needed.

10 Generally, as provided by this invention, a protective hood has an upper head-covering section, which when the protective hood is worn covers an upper portion of a wearer's head, an anterior head-covering section, which when the protective hood is worn covers an anterior portion of the wearer's head, the anterior head-covering section having a window, through which portions of the wearer's face are exposed when the protective hood is worn, a posterior head-covering section, which when the protective hood is worn covers a posterior  
15 portion of the wearer's head, and a lower shoulder-covering portion, which when the protective hood is worn covers portions of the wearer's shoulders.

Broadly, this invention contemplates that the anterior head-covering section is made from comparatively heavier, thermally insulative material, that the upper head-covering section is made from comparatively lighter material, and that at  
20 least one of the other sections is made from comparatively lighter material, whereby to allow thermal energy to pass readily through those sections made from comparatively lighter material. The upper head-covering section, the posterior head-covering section, and the lower shoulder-covering section may be thus made from comparatively lighter material, which may be similar material, such as  
25 similar mesh or netting material.

This invention contemplates that, in certain embodiments, the anterior head-covering section is heat-reflective. Preferably, in those embodiments, the anterior head-covering section is aluminized so as to be heat-reflective.

### **Brief Description of the Drawings**

5        Figure 1 is a perspective view of a protective hood constituting a first embodiment of this invention, as worn by a wearer whose face appears.

Figure 2 is a side elevation of the protective hood of Figure 1, as worn by the same wearer with a protective helmet appearing in cross-section. The protective helmet appearing in Figure 2 does not have a depending shroud.

10       Figure 3 is a perspective view of a protective hood constituting a second embodiment of this invention, as worn by a wearer whose face appears.

Figure 4 is a side elevation of the protective hood of Figure 3, as worn by the same wearer with a protective helmet appearing in cross-section. The protective helmet appearing in Figure 3 has a depending shroud.

### **Detailed Description of the Illustrated Embodiments**

15       As illustrated in Figures 1 and 2, a protective hood 100 constituting a first embodiment of this invention has an upper head-covering section 110, an anterior head-covering section 120 having a window 122, through which portions of a wearer's face are exposed when the protective hood 100 is worn, a posterior head-  
20       covering section 130, and a lower shoulder-covering section 140 made in two subsections sewn together, namely, an anterior subsection 142 and a posterior subsection 144. The respective sections 110, 120, 130, 140, are sewn together.

Ordinarily, the protective hood 100 is worn with a protective coat (not illustrated) of a type that includes plural layers including a thermally insulative  
25       layer and that covers both subsections 142, 144, of the lower shoulder-covering

section 140, whereby to provide thermal protection for the wearer's shoulders. As illustrated in Figure 2, the protective hood 100 is worn with a protective helmet 150, which does not have a depending shroud. Because the protective helmet 150 provides thermal protection for upper portions of the wearer's head, it is not  
5 needed for the protective hood 100 to provide thermal protection for those portions of the wearer's head.

Whereas the anterior head-covering section 120 and the posterior head-covering section 140 are made from similar, comparatively heavier, thermally insulative material, the upper head-covering section 110 and both subsections 142,  
10 144, of the lower-shoulder covering section 140 are made from similar, comparatively lighter material, such as similar mesh or netting material, whereby to allow thermal energy to pass readily through those sections made from comparatively lighter material.

As illustrated in Figures 3 and 4, a protective hood 200 constituting a  
15 second embodiment of this invention has an upper head-covering section 210, an anterior head-covering section 220 having a window 222, through which portions of a wearer's face are exposed when the protective hood 200 is worn, a posterior head-covering section 230, and a lower shoulder-covering section 240 made in two subsections sewn together, namely, an anterior subsection 242 and a posterior  
20 subsection 244. The respective sections 210, 220, 230, 240, are sewn together.

Ordinarily, the protective hood 200 is worn with a protective coat (not illustrated) of a type that includes plural layers including a thermally insulative layer and that covers both subsections 240, 242, of the lower shoulder-covering section 240, whereby to provide thermal protection for the wearer's shoulders. As  
25 illustrated in Figure 4, the protective hood 200 is worn with a protective helmet

250, which has a depending shroud 252. The protective helmet 250 provides thermal protection for upper portions of the wearer's head. The depending shroud 252 provides thermal protection for side and rear portions of the wearer's head. Because the protective helmet 150 provides thermal protection for upper portions of the wearer's head and because the depending shroud 152 provides thermal protection for side and rear portions of the wearer's head, it is not needed for the protective hood 100 to provide thermal protection for those portions of the wearer's head.

Whereas the anterior head-covering section 220 is made from similar, comparatively heavier, thermally insulative material, the upper head-covering section 210, the posterior head-covering section 230, and both subsections 242, 244, of the lower-shoulder covering section 240 are made from similar, comparatively lighter material, such as similar mesh or netting material, whereby to allow thermal energy to pass readily through those sections made from comparatively lighter material.

Because the protective hoods 100, 200, use comparatively lighter materials where comparatively heavier, thermally insulative materials are not needed, the protective hoods 100, 200, are expected to be more comfortable to wear, as compared to prior protective hoods of the type noted above.

In certain embodiments contemplated by this invention, the anterior head-covering section 120, 220, of the protective hood 100, 200, is heat-reflective. Preferably, in those embodiments, the anterior head-covering section 120, 220, is aluminized so as to be heat-reflective. Preferably, in those embodiments, the other sections of the protective hood 100, 200, are not heat-reflective.